

WHAT IS CLAIMED IS:

1 1. A mobile communication system comprising a plurality of base  
2 stations which are located at appropriate positions within a  
3 predetermined area and conduct radio communications with a mobile  
4 communication terminal, and an exchange office which is connected  
5 with said base stations and conducts the exchange control toward  
6 an external network, said exchange office conducting a Time Division  
7 Multiplex radio communication by providing a synchronizing signal  
8 from said exchange office to each of said base stations,  
9 said system further comprising:  
10 delay time detection means for detecting an arrival delay time  
11 of said synchronizing signal to each of said base stations;  
12 computation means for computing a timing correction value which  
13 synchronizes a radio communication timing of all of said base  
14 stations for each base station on the basis of a delay time detected;  
15 and  
16 correction means for correcting said synchronizing signal  
17 supplied to said base stations according to said timing correction  
18 value.

1 2. A mobile communication system, according to claim 1, wherein:  
2 said delay detection means comprises:  
3 means installed in said exchange office for generating a test  
4 signal for delay time detection and sending said test signal to said  
5 base stations;  
6 means for sending by return said test signal sent from said  
7 exchange office at said base station; and  
8 measuring means for receiving said test signal sent by return

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1 8. A mobile communication system, according to claim 4, wherein:  
2 said system comprises switching means for selectively switching  
3 an operating conditions thereof to normal and test operating  
4 conditions, and makes said delay time detection means operate when  
5 said system is in a test operation mode.

9. A mobile communication system, according to claim 5, wherein:  
said system executes said test operation mode when operating  
said system for the first time and/or terminating a maintenance  
operation including additional installation of said base stations.

1 10. A mobile communication system, according to claim 6,  
2 wherein:  
3 said system executes said test operation mode when operating  
4 said system for the first time and/or terminating a maintenance  
5 operation including additional installation of said base stations.

1 11. A mobile communication system, according to claim 7,  
2 wherein:  
3 said system executes said test operation mode when operating  
4 said system for the first time and/or terminating a maintenance  
5 operation including additional installation of said base stations.

1        12.    A mobile communication system, according to claim 8.  
2    wherein:  
3        said system executes said test operation mode when operating  
4    said system for the first time and/or terminating a maintenance  
5    operation including additional installation of said base stations.

1        13. A method of controlling synchronization between base  
2 stations in a mobile communication system comprising a plurality  
3 of base stations which are located at appropriate positions within  
4 a predetermined area and conduct radio communications with a mobile  
5 communication terminal, and an exchange office which is connected  
6 with said base stations and conducts <sup>1/2</sup> the exchange control toward  
7 an external network, said exchange office conducting a Time Division  
8 Multiplex radio communication by providing a synchronizing signal  
9 from said exchange office to each of said base stations.  
10        said method comprising the steps of:  
11        detecting an arrival delay time of said synchronizing signal  
12 to each of said base stations;  
13        computing a timing correction value which synchronizes timing  
14 of radio communication of all the base stations on the basis of delay  
15 time detected for each of said base stations; and  
16        correcting said synchronizing signal supplied to said base  
17 station according to said timing correction value.

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